



PATENT  
Attorney Docket No. 047991-5007-01

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Kyoichi NARIAI

Application No. 09/576,492

Filed: May 23, 2000

For: PIEZOELECTRIC ELEMENT DRIVING  
CIRCUIT AND DRIVING METHOD

Confirmation No.: 3041

Group Art Unit: 2834

Examiner: K. Addison

Commissioner for Patents  
U.S. Patent and Trademark Office  
2011 South Clark Place  
Customer Window  
Crystal Plaza Two, Lobby, Room 1B03  
Arlington, VA 22202

Sir:

**RESPONSE AND REQUEST FOR RECONSIDERATION**

In response to the Office Action dated February 27, 2003 (Paper No. 4), the period for response to which extends through May 27, 2003, favorable reconsideration and allowance of the subject application are respectfully requested in view of the following remarks.

**Summary of the Office Action**

Claims 1-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Applicant Prior Art* in view of *Juve* (U.S. Patent No. 6,039,428).

Claims 9-11 are allowed.

**Summary of the Response to the Office Action**

No change has been made by this Response. Claims 1-11 remain currently pending.



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Sir:

**RESPONSE TRANSMITTAL FORM**

1. Transmitted herewith is a Response and Request for Reconsideration in response to the Office Action dated February 27, 2003 (Paper No. 4).
2. Additional papers enclosed:
  - ☐ Information Disclosure Statement
  - ☐ Form PTO-1449, \_\_\_\_\_ references included
  - ☐ Citations
  - ☐ Declaration of Biological Deposit
  - ☐ Submission of "Sequence Listing", computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.

5. Fee Calculation (37 C.F.R. §1.16)


CLAIMS AS AMENDED						
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	at Rate of	Total Fees
Total Claims (37 C.F.R. §1.16(c))	11	minus	20	0	x \$18 each=	+ \$0.00
Independent Claims (37 C.F.R. §1.16(b))	3	minus	3	0	x \$84 each=	+ \$0.00
[ ] First presentation of Multiple dependent claim(s)					\$280.00	+ \$0.00
SUB-TOTAL =						\$0.00
Reduction by ½ for filing by a small entity						- \$0.00
TOTAL FEE =						\$0.00

6. Fee Payment

- ☒ No fee is to be paid at this time.
- ☐ Please charge Deposit Account No. 50-0310 the amount of \$\_\_\_\_\_ for the extension of time fee or fee for claims.
- ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, including fees due under 37 C.F.R. §§ 1.16 and 1.17, or credit any overpayment to Deposit Account 50-0310.

Respectfully submitted,  
**MORGAN, LEWIS & BOCKIUS LLP**

Dated: May 27, 2003

By:   
 Victoria D. Hao  
 Reg. No. 47,630

**CUSTOMER NO. 09629**  
**MORGAN, LEWIS & BOCKIUS LLP**  
 1111 Pennsylvania Avenue, N.W.  
 Washington, D.C. 20004  
 Telephone: 202.739.3000

3. Extension of Time

The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136(a) apply.

- ☒ Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.
- ☐ Applicant petitions for an extension of time, the fees for which are set out in 37 C.F.R. § 1.17(a), for the total number of months checked below:

<u>Total Months Requested</u>	<u>Fee for Extension</u>	<u>[Fee for Small Entity]</u>
<input type="checkbox"/> one month	\$ 110.00	\$ 55.00
<input type="checkbox"/> two months	\$ 410.00	\$ 205.00
<input type="checkbox"/> three months	\$ 930.00	\$ 465.00
<input type="checkbox"/> four months	\$ 1,450.00	\$ 725.00

Extension of time fee due with this request: \$\_\_\_\_\_.

If an additional extension of time is required, please consider this a Petition therefor.

- ☐ An extension for \_\_\_\_\_ months has already been secured and the fee paid therefor of \$\_\_\_\_\_ is deducted from the total fee due for the total months of extension now requested.

4. Constructive Petition

- ☒ EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

**The Disposition of the Claims**

Applicant appreciates the Examiner's allowance of claims 9-11 as noted on Page 1 of the Office Action.

Claims 1-8 also are believed to be allowable in light of the documents relied upon by the Office Action for at least the following reasons.

**Claim Rejection Under 35 U.S.C. §103(a)**

Claims 1-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Applicant Prior Art* in view of *Juve*. This rejection is respectfully traversed for at least the following reasons.

The Office Action asserts that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify FIG. 3 of the instant application in view of *Juve* to render the claimed invention unpatentable. Specifically, the Office Action acknowledges that FIG. 3 of the instant application does not show a plurality of amplifiers and flexible flat cables connected to a plurality of head units. See page 3, lines 10-11 of the Office Action. Thus, the Office Action further cites *Juve* as allegedly teaching multiple amplifiers and flexible flat cables, thereby remedying the deficiencies in FIG. 3 of the instant application.

Applicant respectfully submits that even if there exists motivation or suggestion in the prior art to combine FIG. 3 of the instant application with *Juve*, which Applicant denies exists, neither FIG. 3 of the instant application nor *Juve* singly or in combination teaches or suggests the claimed combinations as set forth in independent claim 1 and 7 including the plurality of power amplifiers.

In particular, the Office Action states that “*Juve* (6,039,428) teaches (fig. 3) the concept of using multiple amplifiers (D1, D2, D3) and flex cables circuits (102) to drive each associated

inkjet head units (50-60).” However, Applicant respectfully submits that *Juve* teaches that elements D1-D3 are data lines “used to carry the print and status data, control signals, and clock signals.” Column 7, lines 57-59 of *Juve*. In fact, no portion of *Juve* discusses multiple power amplifiers. Accordingly, Applicant respectfully traverses the Office Action’s assertion that *Juve* teaches multiple amplifiers (D1-D3), and submits that FIG. 3 of the instant application in view of *Juve* still fails to teach or suggest the claimed combinations as set forth in independent claim 1 and 7 including the plurality of power amplifiers.

In addition, Applicant respectfully submits that neither FIG. 3 of the instant application nor *Juve*, whether taken singly or combined, teaches or suggests the claimed combinations as set forth in independent claims 1 and 7 including “a plurality of ink jet head units which are able to control velocity and size of ink droplets being proportional to an acceleration and intensity of deformation of the piezoelectric element.” Furthermore, Applicant respectfully submits that neither FIG. 3 of the instant application nor *Juve*, whether taken singly or combined, teaches or suggests the claimed combination as set forth in independent claim 7 “wherein when the small ink droplets are sprayed, the time constant of the plurality of power amplifiers that are driving allows the number of piezoelectric elements that are simultaneously driven to become maximum.”

MPEP 2143.03 instructs that “[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).” Since, in view of the above, FIG. 3 of the instant application in view of *Juve* fails to teach or suggest each and every element set forth in independent claims 1 and 7, it is respectfully submitted that FIG. 3 of the instant application in view of *Juve* does not render claims 1 and 7 unpatentable. Further, since claims 2-6 and 8

depend from claims 1 and 7, it is respectfully submitted that FIG. 3 of the instant application in view of *Juve* also does not render claims 2-6 and 8 unpatentable. Accordingly, withdrawal of the rejection to claims 1-8 under 35 U.S.C. §103(a) is respectfully requested.

### **Conclusion**

In view of the foregoing, withdrawal of the rejections and allowance of the pending claims are earnestly solicited. Should there remain any questions or comments regarding this response or the application in general, the Examiner is urged to contact the undersigned at the number listed below.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

**MORGAN, LEWIS & BOCKIUS LLP**

Dated: May 27, 2003

By: 

Victoria D. Hao

Registration No. 47,630

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